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2857	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)
	10/591,701	LERCHE ET AL.
	Examiner	Art Unit
	Mi'schita' Henson	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *16 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19-26 and 28-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-26 and 28-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed August 16, 2010. Claims 1, 4, 10-14, 16, 19 and 34 have been amended. Claims 1-17, 19-26 and 28-35 are pending.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1-10, 17, 21-26 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is neither tied to a machine or apparatus, nor does it perform a transformation. As currently presented, the method steps in claims 1-10, 17, 21-26 and 28 need not be performed by a specific machine.

Based on recent Court decisions, it has been held that a §101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. Thus, to qualify as a §101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example, by ***identifying the apparatus that accomplishes the method steps***, or positively recite the subject matter that is being transformed, for example, by identifying the material that is being changed to a different state.

As such, claim 1 only recites a method that includes steps that could be purely mental and the claim does not in any way tie the process to another statutory class nor does the claim transform an article to a different state or thing. Such claims are therefore non-statutory under 35 U.S.C. 101.

Claims 2-10, 17, 21-26 and 28 do not remedy the deficiencies of the claims from which they depend, with respect to 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Alsmeyer et al. in US Patent 5,638,172.

Regarding claim 11, Alsmeyer et al. teaches:

A device for an automatic determination of a physical, technical method and/or colloidal chemistry parameter (see "measuring physical and analytical properties...is well established in the art", column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), the device comprising:

a sample receptacle unit (see sample container, column 2 lines 51-52), and a spectrometric measurement device (see "Spectrophotometric apparatus...and radiation source", column 1 line 55-56 and column 5 lines 9-15) with a source producing monochromatic parallel radiation (see "monochromatic radiation source", column 3 lines 34-35 and column 5 lines 16-18), which measures radiation intensity scattered or transmitted by a dispersion sample (see "a means of collecting scattered radiation...a means of...dispersion, of the scattered radiation...", column 5 lines 9-15) over the a partial or entire length of the sample (see "a sample contained in a tube is irradiated by

radiation from a laser along the axis of the tube", column 5 lines 20-22), simultaneously for multiple positions of the sample (see "simultaneously acquiring at more than one wavelength", Abstract; see also "simultaneously irradiating", column 3 lines 33-35), and provides a radiation intensity measurement for each of the multiple positions at which a measurement is taken (see "a sample…is irradiated by radiation from a laser along the axis of the tube", column 5 lines 21-22).

Regarding claim 13, Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Further, Alsmeyer et al. teaches:

The device according to claim 11 wherein the source producing monochromatic parallel radiation comprises a plurality of radiation sources of different monochromatic wavelengths, whose radiation intensity $I_o(t, r)$ can be varied, are used depending on the sample and measurement tasks (see "diode lasers capable of performing at various incident wavelengths are commercially available", column 6 lines 45-59; see also "There are various classes of laser radiation sources…", column 5 lines 23-28; see also "multi-mode diode laser", claim 4).

Regarding claim 14, Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Further, Alsmeyer et al. teaches:

The device according to claim 11, further comprising a thermostat for controlling a measurement range and carrying out measurements at selectable temperatures both under as well as over room temperature. (see "temperature tunable over a small wavelength range", column 6 lines 17-20; see also "Repetitious sampling and analytical measurements", column 2 lines 44-46).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172, in view of Zhang et al. in US Publication 2005/0275837, Official Notice and Allen in US Patent 5,095,451, the method comprising:

A method for an automatic determination of a physical, technical method and/or colloidal chemistry parameter using a measurement device, by a determination of an attenuation of radiated waves during a segregation of a monodisperse or polydisperse dispersion sample (see “measuring physical and analytical properties…is well established in the art”, column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), comprising:

(a) repeatedly determining momentary transmission values $I_T(t, r)$ and optionally scattering values $I_s(t, r)$ using waves radiated with intensity values $I_o(t, r)$ (see “a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…”, column 5 lines 9-15; see also “see "monochromatic radiation source” and "monochromatic radiation source of high intensity”, column 3 lines 34-35 and column 5 lines 16-18; see also “Repetitious sampling and analytical measurements”, column 2 lines 44-46) as a function of a position r within the sample at a time t, for one or more

wavelengths over at least a partial section of the sample (see "simultaneously acquiring at more than one wavelength", Abstract; see also "simultaneously irradiating", column 3 lines 33-35), simultaneously for multiple positions r (see "a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube", column 5 lines 20-22);

Further, Alsmeyer et al. teaches a computer for rapid analytical determinations (see computer, column 7 lines 30-31, column 11 lines 3-4 and Fig. 2 (a computer is interpreted to comprise memory for saving or recording data and information and therefore would be capable of repeatedly recording the scattering values)).

Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach during segregation of the sample, characterizing a segregation status from the scattering values $I_s(t, r)$, calculating extinction profiles $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$, calculating segregation speeds or calculating a polydisperity.

Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]).

Examiner takes official notice that it is well known in the art that extinction profiles are the log of a ratio the radiation leaving the sample, $I_T(t, r)$, and the intensity of the radiation entering the sample, $I_O(t, r)$ (see Wegstedt below), therefore it would have been obvious to one of ordinary skill in the art to calculate the extinction profiles.

Allen teaches a method and apparatus for determining particle size distributions of particular samples by measuring particle concentration as a function of time and position (Abstract and column 2 lines 37-47). Further, Allen teaches from the extinction profiles $E_T(t, r)$ determined at different times and a local adjustment made in time segments, calculating segregation speeds for any constant extinction values ("radiation detector continually generating radiation transmission data" is interpreted to be determined at different times and the local adjustment made in these time segments, column 3 lines 45-56) and from a ratio of the segregation speeds determined for specific extinction percentiles, calculating a polydispersity index, which is characteristic for the polydispersity of the density or a particle or droplet size (see particle size and D_m, column 3 line 60 - column 4 line 3 and column 4 lines 54-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 2, Alsmeyer et al., Zhang et al., Official Notice and Allen teach the limitations of claim 1 as indicated above. Further, Allen teaches:

Method according to claim 1, wherein the particle or droplet sizes and their distribution are determined (see determining particle sizes, Abstract, column 1 lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 17, Alsmeyer et al., Zhang et al., Official Notice and Allen teach the limitations of claim 1 as indicated above. Further, Allen teaches:

Method according to claim 1, wherein the physical, technical method and/or colloidal chemistry parameter that is determined is selected from the group consisting of particle size, distribution of particle size, speed distribution, particle flux, hindrance function, index of structural stability and a combination thereof (see particle size distribution, Abstract, column 1 lines 6-7 and column 2 lines 48-59; see also geometric particle size, column 12 lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the

normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

4. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Alsmeyer et al. in US Patent 5,638,172, in view of Rolfo-Fontana in US Patent 3,932,131.

Regarding claim 12, Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Further, Alsmeyer et al. teaches a computer with mathematical routines (column 11 lines 3-4 and Fig. 1). Examiner takes Official Notice that it would have been obvious to one of ordinary skill in the art to store measurement results in a database, therefore it would have been obvious to one of ordinary skill in the art to modify Alsmeyer et al. to store measurement results in a database in order to make them available for a calculation, thereby improving the functionality of the system.

Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach the sample receptacle unit comprises different cuvettes matched to the measurement task.

Rolfo-Fontana teaches a method for simultaneous performance of a number of analyses (column 1 lines 8-12) using methods such a spectrophotometric methods (column 1 lines 50-55) comprising a number of cuvettes for different kinds of analysis and having different measurement tasks (i.e. the sample receptacle unit comprises different cuvettes matched to the measurement task, column 3 lines 25-64 and Figs. 2-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Rolfo-Fontana and Allen with Alsmeyer et al. and Official Notice because Rolfo-Fontana teaches a method for simultaneous performance of a number of analyses of a plurality of sample types (column 1 lines 8-12), thereby improving the efficiency and functionality of the system.

5. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172 as applied to claim 11 above, in view of Allen in US Patent 5,095,451.

Regarding claim 15, Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach the multi-sample receptacle unit is designed as a rotor.

Allen teaches a method and apparatus for determining particle size distributions of particular samples by measuring particle concentration as a function of time and position (Abstract and column 2 lines 37-47) comprising a multi-sample receptacle unit designed as a rotor (see "is capable of being rotated in order to induce a centrifugal force field, column 2 lines 60-62), and is driven by a motor (see motor, column 8 lines 50-53 and Fig. 2; see also stepper motor, column 12 line 31) with programmable variable and/or constant revolutions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Allen with Alsmeyer et al. because Allen teaches a method of reducing the time required in determining particle

size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 16, Alsmeyer et al. and Allen teach the limitations of claim 15 as indicated above. Further, Allen teaches the multi-sample receptacle is capable of accepting samples placed vertically for segregation in a gravitational field (see tank, horizontally and vertically, column 8 line 65 - column 9 line 10 and Figs. 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Allen with Alsmeyer et al. because Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

6. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172, in view of Zhang et al. in US Publication 2005/0275837.

Regarding claim 29, Alsmeyer et al. teaches:

A method for determining a parameter of a sample using a measurement device (see “measuring physical and analytical properties…is well established in the art”, column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), the method comprising:

radiating the sample with waves having intensity values I_o (t, r) (see "monochromatic radiation source” and "monochromatic radiation source of high intensity”, column 3 lines 34-35 and column 5 lines 16-18), at multiple

positions r of the sample at a time t (see “a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube”, column 5 lines 20-22);

detecting scattering values $I_s(t, r)$ of the sample (see “a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…”, column 5 lines 9-15), simultaneously for multiple positions r (see “simultaneously acquiring at more than one wavelength”, Abstract; see also “simultaneously irradiating”, column 3 lines 33-35); and

Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach during segregation of the sample or characterizing a segregation status from the scattering values $I_s(t, r)$.

Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Regarding claim 30, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches a computer for rapid analytical determinations (see computer, column 7 lines 30-31, column 11 lines 3-4 and Fig. 2 (a computer is interpreted to comprise memory for saving or recording data and information and therefore would be capable of recording the scattering values)).

Regarding claim 31, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches wherein the radiation and detecting are repeatedly conducted ("a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…", column 5 lines 9-15; see also "simultaneously irradiating", column 3 lines 33-35). Further still, Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]). One of ordinary skill in the art would have recognized that the segregation status would need to be characterized repeatedly or after each radiation and detection in order to capture the change in segregation characteristics of the sample.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of

analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Regarding claim 32 (as it is best understood), Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches:

The method according to claim 29, wherein the step of detecting scattering values $I_s(t, r)$, is conducted over substantially the entire length of the sample (see "a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube", column 5 lines 20-22).

Regarding claim 33, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches:

The method according to claim 29, wherein the step of detecting transmission values $I_T(t, r)$ and/or scattering values $I_s(t, r)$, is conducted for multiple samples (see "Repetitious sampling and analytical measurements", column 2 lines 44-46).

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172 and Zhang et al. in US Publication 2005/0275837 as applied to claim 29 above, and further in view of Official Notice.

Regarding claim 19 (as it is best understood), Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches at least transmission values $I_T(t, r)$ are detected (see "a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…", column 5 lines 9-15). Alsmeyer et al. and Zhang et al. differ from the claimed invention in that they do not

explicitly teach calculating and extinction profile by finding a log of a ratio of $I_O(t, r)/ I_T(t, r)$.

Examiner takes official notice that it is well known in the art that extinction profiles are the log of a ratio the radiation leaving the sample, $I_T(t, r)$, and the intensity of the radiation entering the sample, $I_O(t, r)$ (see Wegstedt below), therefore it would have been obvious to one of ordinary skill in the art to calculate the extinction profiles.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Response to Arguments

Examiner clarification to Applicant regarding 35 U.S.C. 101 rejection:

"Identifying the apparatus" requires that the process claim explicitly recite the particular machine or apparatus, or recite ***a step that involves the use of a particular machine or apparatus***. Although "a measurement device" (a particular machine) is recited in the preamble of the claim, it is not required in the performing of any of the steps themselves therefore is not an explicitly recited structural tie to another statutory class.

Initially, it is noted that Applicant does not traverse the Examiner's assertion of official notice in the Office Action dated March 16, 2010, therefore, because the

Applicant failed to traverse, the common knowledge or well-known in the art statement is taken to be admitted prior art.

8. Applicant's arguments filed August 16, 2010 have been fully considered but they are not persuasive. Applicant argues:

> Claims 1-10, 17, 21-26 and 28 stand rejected under 35 U.S.C. §101. Withdrawal of this rejection is respectfully requested for at least the following reasons.
>
> The machine-or-transformation test being relied on by the Examiner is not the sole test for patent-eligibility of processes under 35 U.S.C. §101. See *Bilski v. Kappos,* 561 U.S. ~ (2010), 2010 U.S. LEXIS 5521 (June 28, 2010). As is apparent from the plain language of independent claim 1, such claim is not merely
>
> directed to laws of nature, natural phenomena or abstract ideas. As such, claim 1 is fully compliant with the provisions of 35 U.S.C. §101. Accordingly, for at least the above reasons, withdrawal of the §101 rejection is respectfully requested.

See clarification statement above.

Applicant argues:

> Claims 11, 13 and 14 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,638,172 (Alsmeyer et al). Withdrawal of this rejection is respectfully requested for at least the following reasons.
> Alsmeyer et al does not disclose each feature recited in independent claim 11, and as such fails to constitute an anticipation of such claim. For example, Alsmeyer et al does not disclose a spectrometric measurement device which measures radiation intensity scattered or transmitted by a dispersion sample over a partial or entire length of the sample, simultaneously for multiple positions of the sample, as recited in claim 1. Nor does Alsmeyer et al disclose that the spectrometric measurement device provides a radiation intensity measurement for each of the multiple positions at which a measurement is taken, as recited in claim 1.
>
> In this regard, the Patent Office has relied on Alsmeyer et al for disclosing "simultaneously irradiating.., a reference material and a chemical composition". See col. 3, lines 34-37 and Figure 2. The claimed device, however, measures radiation intensity simultaneously for multiple positions of the sample. That is, the multiple positions at which radiation intensity measurements are taken are of the same sample. Alsmeyer et al discloses the simultaneous measurement of two separate samples, i.e., a reference material and a chemical composition.
> The Patent Office has also relied on Alsmeyer et al for disclosing "simultaneously acquiring at more than one wavelength convolved Raman spectra of the reference material and the chemical composition". See col. 3, lines 40-43. Such disclosure of *Alsmeyer et al* pertains to simultaneously acquiring at more than one wavelength convolved Raman spectra. Such disclosure does not relate to the measurement of radiation intensity simultaneously for multiple positions of the sample. Nor is there any disclosure that such device provides a radiation intensity measurement for each of the multiple positions at which a measurement is taken.

> Quite clearly, *Alsmeyer et al* fails to constitute an anticipation of independent claim 11. Accordingly, withdrawal of the above §102(b) rejection is respectfully requested.

Alsmeyer et al. teaches a spectrophotometric apparatus such as a spectrograph and a radiation source (column 1 lines 54-56) and a typical Raman spectrometer (column 5 lines 9-15), and therefore teaches a spectrometric measurement device which measures radiation intensity scattered or transmitted by a dispersion sample over a partial or entire length of the sample and the spectrometric measurement device provides a radiation intensity measurement. Further, Alsmeyer et al. teaches the sample is irradiated by radiation from a laser along the axis of the tube (column 5 lines 20-24), Examiner interprets along the axis of the tube to be multiple positions of r, there fore Alsmeyer et al. teaches simultaneous for multiple position. The Examiner maintains that Alsmeyer et al. teaches the limitations of the claims as presented.

Applicant argues:

> *Alsmeyer et al* does not disclose or suggest each feature recited in independent claim 1. For example, *Alsmeyer et al* does not disclose or suggest repeatedly determining and recording momentary transmission values IT(t, r), and optionally scattering values Is(t, r), characterizing a current segregation status of the sample using waves radiated with intensity values Io(t, r) as a function of a position r within the sample at a time t, for one or more wavelengths over at least a partial section of the sample, simultaneously for multiple positions r, as recited in claim 1...
>
> The Patent Office has also relied on Alsmeyer et al's disclosure, "a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube." See Official Action at page 9 and Alsmeyer et al at col. 5, lines 20-22. Such disclosure mentions only one location at which irradiation is taking place, i.e., along the axis of the tube. There is no mention or suggestion that transmission values IT(t, r) are repeatedly determined and recorded, simultaneously for multiple positions r. For each of such multiple positions, a transmission value IT(t, r) is determined and recorded. Alsmeyer et al clearly has no disclosure or suggestion of such feature.
> Furthermore, Alsmeyer et al does not disclose or suggest each feature recited in independent claim 29. For example, Alsmeyer et al does not disclose or suggest detecting transmission values IT(t, r) and/or scattering values Is(t, r) of the sample, simultaneously for multiple positions r. For each of such multiple positions at which detection occurs, a transmission and/or scattering value is detected. Alsmeyer et al clearly has no disclosure or suggestion of such

> feature. As noted above, Alsmeyer et al discloses simultaneous acquisition at more than one wavelength, not at multiple positions r. Further, Alsmeyer et al mentions only one location at which irradiation is taking place, i.e., along the axis of the tube, and fails to disclose or suggest detecting transmission values IT(t, r) and/or scattering values Is(t, r) of the sample, simultaneously for multiple positions r.

See above.

Applicant argues:

> The secondary applied documents (i.e., Zhang et al, Allen and U.S. Patent No. 3,997,845 to Wegstedt) fail to cure the above-described deficiencies of Alsmeyer et al. In this regard, the Patent Office has relied on Zhang et al for teaching an analyte segregation and testing method. Allen has been relied on for disclosing calculating segregation speeds for any constant extinction values. Wegstedt has been relied on for disclosing that "extinction profiles are the log of a ratio the radiation leaving the sample.., and the intensity of the radiation entering the sample." See Official Action at page 10. Quite clearly, even if the secondary applied documents would have been combined with Alsmeyer et al in the manner suggested by the Patent Office, the resulting combination nevertheless fails to cure the above- described deficiencies of Alsmeyer et al with respect to independent claims 1, 11 and 29.
> For at least the above reasons, it is apparent that independent claims 1, 11 and 29 are non-obvious over the applied documents. Accordingly, withdrawal of the §103(a) rejections is respectfully requested.
> The dependent claims are allowable at least by virtue of their direct or indirect dependence from one of the independent claims. Thus, a detailed discussion of the additional distinguishing features recited in the dependent claims is not set forth at this time.

See above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mi'schita' Henson whose telephone number is (571) 270-3944. The examiner can normally be reached on Monday - Thursday 7:30 a.m. - 4:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/23/2010
/Mi'schita' Henson/
Examiner, Art Unit 2857

Drew A. Dunn
/Drew A. Dunn/
Supervisory Patent Examiner, Art Unit 2857